

REMAINING ISSUES

Three questions remain to be addressed:

- Do pregnancy rates provide an external corroboration of pupil claims regarding their sexual behaviour?
- Is there a change in pupils' abilities to recognize that they are at risk?
- Are there some examples of schools that are doing particularly well – i.e. that stand out from the rest?

Pregnancy Rates

Conclusions about programme effects on sexual behaviours are based exclusively on self-reports or claims of sexual behaviour made by pupils in response to survey questions. Focus group discussions provide some confirmation of these reports since the themes identified in focus groups coincided with the themes that emerged from survey data (e.g., in focus group discussions and in-depth interviews at wave 2 there were claims of changes in sexual behaviour that coincided with the changes that began to be evident when comparing wave 1 and 2 survey data).

School reports of the number of pregnancies among standard 6, 7 and 8 girls during 2001 and 2002 were gathered for use as a potentially more objective check on the reports of girls' sexual activity. The reasoning was that if fewer girls were claiming they were sexually active, and/or more boys and girls were claiming condom use, we might expect reports of lower pregnancy rates. What must be recognized, is that reports of pregnancies are also subjective.

Despite a significant and substantial decrease in the proportion of girls in both target and control schools who claimed they had ever played sex (22% at wave 2 compared to 48% at wave 1 reported they had played sex), there were no changes in pregnancy rates between wave 1 and wave 2. This suggests one of three possibilities:

- Girls' reports of their sexual activity may be inaccurate with more girls engaging in sex than admitted doing so at wave 2 and/or fewer girls engaging in sex than claimed to in wave 1.
- Pregnancy counts may be inaccurate, particularly since they are the number of known and suspected pregnancies that are reported by the head teacher to the zonal inspector. Head teachers may underestimate the number of pregnancies if they feel that pregnancies among schoolgirls are an indication of poor school management. Alternatively, pregnancies may be kept secret from head teachers.
- Pregnancy rates may not be a good indicator of sexual activity levels; for example, some youth may be successful in preventing pregnancy or the changes in sexual activity may not be sufficient to produce changes in pregnancies.

In regression analysis, only one factor was found to influence pregnancy rates. The higher SES level of the school, the lower the wave 2 pregnancy rates were. Although this effect was statistically significant, it was slight (see Table T, column 21).

Table 2: Pregnancy Rates for 2001 and 2002 as Reported to Zonal Inspectors by Head Teachers

Pregnancies	Proportion Girls in the Grade Reported to be Pregnant	
	Wave 1	Wave 2
Standard 6	.05	.03
Standard 7	.10	.06
Standard 8	.11	.07
Standard 6, 7 and 8	.08	.05

To compare similar groups of girls, comparisons should be drawn between one lower standard in wave 1 than wave 2 (i.e. wave 1 Standard 6 and wave 2 Standard 7).

For a more detailed report on pregnancy data see Appendix C.

Estimation of Risk

A sense of the risk or safety of one's sexual behaviours can have a sizable influence on whether behaviours to reduce risk are taken up. Pupils' actual sexual and condom use behaviours together with their personal assessment of their level of risk for HIV infection were combined to create a measure of how accurately youth were assessing their own risk.

Most sexually active youth underestimated their risk (64%). Accurate estimation of sexual risk appears to be related to knowledge with schools where pupils have higher scores on the HIV/AIDS knowledge scale and find the programming more useful, having lower proportions of pupils underestimating their risk. HIV and AIDS programming had no effect on whether or not pupils underestimated their own risk (see Table T, column 22).

However, for both risk estimation and changes in risk estimation from wave 1 to wave 2, it was primarily sexual and condom behaviours which had an influence. Schools where more youth were sexually active and where fewer were using condoms had higher proportions and greater increases in the proportions underestimating their risk. In addition, where HIV/AIDS knowledge had *increased* among youth, and where youth felt surrounded by pressures to play sex there was an increase in youth underestimating their risk. These results are exactly in the opposite direction to that desired – instead of recognizing their risk youth appear to be denying it, perhaps as a mechanism to keep the specter of AIDS as far removed as possible from their consciousness.

“Best” Schools

While we can learn a great deal from analyses using large samples of schools, pupils and teachers, there is also much to be learned by taking a closer look at those schools which appear to be performing “best” or at the “top” on key PSABH indicators. In order to do this schools scoring in the top 10% on any of 13 key indicators six were selected¹. Each

¹ Overall teacher knowledge, overall pupil knowledge, avoidance knowledge (pupils), pressure, force, commitment to abstinence, helped a friend avoid a situation that may have led to playing sex, pursuit of information, sexual debut, recent sexual activity, condom use, and refusing an offer to play.

school was then given an overall rank based on the number of indicators on which they scored in the top 10%.

Based on this ranking 8 schools were selected as “top” or “best” schools. Of note is that none of the schools included in the evaluation scored in the top 10% on all of the indicators. Of the 8 schools selected as “top” or “best” schools:

- 5 were target and 3 control schools; and,
- All of these schools scored in the top 10% on 4-6 of the 13 indicators.

The top schools appear to be doing best on a cluster of variables. These include:

- Pupil overall knowledge;
- Pupil knowledge about how to avoid HIV infection;
- Pupils’ sense of agency with respect to sexual activity; and,
- Pupils’ commitment to abstinence (see Table V).

A select few of these schools deserve mention for scoring in the top 10% on variables of particular interest. These include:

- Nyamonuri with the lowest and best score (1.1%) on the percentage of pupils who initiated playing sex during the PSABH programme.
- Nyandoche where 80% of boys reported condom use at last sex.
- Pace Academy and Kaduro which had no pupils reporting recent sexual activity.

These 8 schools were then selected out from the original database and examined further on other key variables. It was found that, compared to the mean or average scores for the full 160 schools, almost all of the top schools had:

- Higher KCPE scores;
- Higher school SES;
- Higher teacher/pupil ratios;
- Teachers with more positive attitudes towards teaching about sex and HIV/AIDS;
- Teachers who cited fewer barriers to teaching about sex and HIV/AIDS;
- Higher teacher and pupil implementation scores;
- Pupils who rated the programme more positively; and,
- Higher overall impact score (see Tables W and X).

These results support and, in fact, highlight the results presented on the full 160 schools:

- More target schools (i.e. PSABH trained) are doing well than are control schools;
- Where implementation of the HIV/AIDS programme is high, outcomes tend to be in the desired direction; and,
- Schools that are doing best in desired outcomes are not only doing well in implementation of the programme but also have a more ‘privileged’ profile in terms of school characteristics (e.g., more teachers, better resourced, higher KCPE scores).

PSABH COMPARED TO OTHER SSA SCHOOL-BASED PROGRAMMES

Gallant and Maticka-Tyndale (in press) in “School-based HIV prevention programmes for African youth” compared 11 evaluated school-based HIV/AIDS prevention programmes from sub-Saharan Africa. Programmes were compared for content, method and results. Five were in primary and 6 in secondary schools. The question addressed here is: *How does PSABH compare to these programmes?* Answering this question is difficult since a direct comparison between PSABH and other programmes in sub-Saharan Africa cannot be made for three reasons:

1. Differences in programme design, implementation and evaluation;
2. Extraneous and uncontrollable factors that influenced uptake of PSABH;
3. The presence of considerable HIV and AIDS programming in control schools.

Differences in design, implementation and evaluation between PSABH and other programmes in Sub-Saharan Africa.

There is only one programme reviewed in the Gallant and Maticka-Tyndale article that shares enough content and method with PSABH to draw a meaningful comparison. This is the Ugandan programme evaluated by Shuey et al. (1999) in which HIV/AIDS teaching and activities were infused and integrated throughout curricular and co-curricular activities. As with PSABH, there was no set time period, amount of time, or duration for the programme since it was expected to be present across the curriculum and to remain active over time. In all other reviewed programmes there were either:

- Specific, limited activities brought to the school (e.g., a drama production, board game, specific class); and/or,
- The programme was designed to be taught in a limited number of hours (most typically 20 hours total).

This makes all other programmes more limited in scope and easier to monitor, test and evaluate. Because PSABH and the Ugandan programme are more diffuse, they have greater potential for success in changing pupil attitudes and behaviours, but they are also:

- More difficult to implement,
- Take longer to get “up and running”; and,
- Their effect on pupil attitudes and behaviours is likely to
 - Be more diffuse;
 - Follow indirect pathways of influence; and,
 - Take longer to evidence.

Note that the Ugandan programme was not evaluated until it was in place for 24 months.

Extraneous and Uncontrollable Factors which influenced PSABH implementation and uptake

There is no evidence of major disruptions in implementation of any of the other programmes; whereas, PSABH was disrupted by a teachers’ strike and influx of new pupils. Consider the dates below:

<u>Teacher Training Completed</u>	<u>Programme in Schools</u>	<u>Data Collected for Evaluation</u>
Course A – April 2002	May-July 2002 (3 mos)	SRS/CRS August 2002
Course B – August 2002	September 2002* (1 mos)	Teacher & Pupil surveys – Feb 2003**

* Teachers on strike October – early November 2002, remainder of November disrupted with campaigning for election and ‘catch-up’ to prepare for KCPE exams.

**Average 30-40% increase in pupils in STDs 6 & 7 in January, 2003 with announcement of free primary education. No immediate increase in teachers or teaching resources.

In effect, the data collected in February 2003 primarily reflected HIV/AIDS programming for May-July and September of 2002. Although it was collected 6 months after Course B was completed, considering that it takes time to get a programme started and colleagues trained, the HIV/AIDS programming was more likely to have had 3-4 months of actual implementation in the schools. It was made clear in the qualitative interviews that HIV/AIDS programming was disrupted after September and only began to come back to the desired level in February 2003.

Extent of HIV/AIDS Programming Present in Control Schools

A lot of HIV/AIDS programming has been taking place in the control schools and in all communities served by PSABH. Kenya in 2002 and 2003, and Nyanza Province in particular, appears to be at a more advanced stage of general programming on HIV and AIDS than were the other countries where school programmes were implemented in the early to mid-1990s. As a result, more overlap is seen between target and control schools for targeted outcomes in PSABH than in other programmes. In PSABH, target schools are often “better” than controls, but in many cases this is not yet statistically significant because controls have also taken steps to implement HIV/AIDS education.

What *can* we say about PSABH relative to these other programmes?

Recognizing the above limitations to drawing comparisons between PSABH and other school-based programmes evaluated in SSA, several tentative conclusions *can* be drawn.

Communication

All programmes that targeted and measured communication about HIV and AIDS found an increase. PSABH produced a similar increase.

Knowledge and Attitudes

There were mixed results with respect to changing knowledge and attitudes related to abstinence, condoms, and general information about HIV and AIDS in other school-based programmes. We have not yet seen changes in knowledge and attitudes among pupils in target schools.

Behaviours

Sexual Debut

Two programmes produced a reduction in pupils initiating sexual activity. The Ugandan programme evaluated by Shuey et al. (1999) found a reduction when comparing sexual initiation before the programme and among pupils who had been part of the programme for 24 months. A secondary school programme in Namibia evaluated by Stanton et al. (1998) found no changes in sexual debut at the immediate and 6 month evaluations, but did find that fewer *girls* reported sexual initiation once the programme had been in place for 12 months. This programme was a limited, after-school delivered by trained (40 hours training) teachers and out-of-school youth.

For the PSABH programme, there has been a significant decrease in girls in both target and control schools reporting sexual debut. This differs from both the Ugandan and Namibian programmes where there was no change in sexual debut in control schools. However, there was also no or minimal HIV/AIDS programming in control schools in these other programmes; whereas, there is considerable overlap in the amount of programming in target and control schools in our sample.

Condoms

All but two of the programmes reviewed by Gallant and Maticka-Tyndale reported problems with teaching about condoms. In one case (Kinsman et al. 2001), the evaluators reported that the information about condoms contained in the programming worked against implementation of the programme and, consequently, the programme was actually implemented in very few of the targeted communities. In other cases, community and school resistance to including information about condoms led to these portions of the curriculum being dropped. Two programmes did include condom information. One was an after-school programme delivered by a physician and teacher(s) in secondary schools in Nigeria (mean age 17-18 years) (Fawole et al. 1999), the other was a programme that used drama to deliver and teach about HIV and AIDS (including about condoms) to 8 pupils in South Africa (mean age 17.6 years) (Harvey et al. 2000). Only the latter programme recorded an increase in condom use among pupils 6 months after the programme was in place.

Condoms proved to be a difficult topic in the PSABH schools. From the SRS results it was evident that teachers were struggling with what to say and consequently were relying primarily on an abstinence message. The CRS results showed that condoms were not an acceptable message in the communities either. At 6 month evaluation the struggles continued. Where information about condoms was communicated to pupils it was almost exclusively negative information designed to discourage condom use and push pupils to see abstinence as the only method to keep themselves safe.

While it is difficult to draw direct comparisons between PSABH and other school-based programmes in SSA, when considering the very short period of time for implementation, the level of HIV/AIDS programming in control as well as target schools, and the diffuse nature of PSABH programming in the schools, the evaluation results are probably as promising as those from other programmes.

CONCLUSIONS

The effect of PSABH on HIV and AIDS programming in schools and HIV/AIDS related knowledge, attitudes and behaviour of pupils is a complex one with many complementary and countervailing forces at work. AIDS is present in all communities that participated in this study. This has brought a response from churches, communities, schools, and outside organizations especially with respect to programming for youth. The presence of such widespread programming, combined with a teachers' strike, teacher transfers between schools, and the influx of large numbers of previously unschooled or minimally schooled youth has complicated the evaluation of PSABH. What has come with this complication, however, is the realization that the conditions under which PSABH has operated during its evaluation in all likelihood closely mirror the *real-life-conditions* that exist in Kenyan schools.

What is hoped for when using an experimental design for programme evaluation is that the control group will remain relatively naïve to the kind of programming that is taking place in target or experimental schools and that the programming in target schools will proceed with minimal interference and in close approximation to its design. While an experimental design can accommodate a certain degree of divergence from these expectations, when the divergence is extreme and of a type that is likely to affect programme implementation, responses to programming, and targeted outcomes, straightforward comparisons of target and control groups over several time-points provide an incomplete picture of how the programme is faring. More elaborate data analyses are thus required in order to identify the avenues or channels through which the programme operates.

Recognizing the number of ways in which practical conditions have made the implementation and evaluation of PSABH diverge from its original design, more complex data analysis procedures were used together with triangulation of several forms and sources of data in order to begin to capture the complexity of programme effects. Not only were statistical tests conducted to identify differences between target and control schools and changes from wave 1 (pre-programme) to wave 2 (6 months after completion of teacher and community representative training), but regression analyses were also used to develop a picture of how various programme components worked together and of the channels through which PSABH and HIV and AIDS programming influenced pupil knowledge, attitudes and behaviours.

The picture that emerged from the analyses conducted on survey data and from interviews and focus groups is one of a complex interrelationship between various components of HIV and AIDS programming in schools, pupil and teacher response to and perceptions of school programmes, and the knowledge, attitudes and behaviours of pupils. At times the effect of PSABH is a direct one as is evident in statistically significant differences between target and control schools and significantly greater changes in target than control schools across the two waves of data collection. At other times the effect is indirect, with PSABH training initiating a chain of activities and responses, which eventually produce effects on knowledge, attitudes or behaviour. Such

indirect effects are generally weaker than direct ones since they must work through and they are influenced by other factors. Thus, as illustrated in the graphs on page 23, some control schools had as much or more HIV and AIDS programming in place as the average target schools. In these control schools there were no differences in the outcomes that were affected by this programming from those found in the average target schools. Through identifying the indirect effects and tracing the pathways of influence of various components on each other a more realistic picture is produced of how influences operate.

From the statistical and textual analyses performed so far there is confirmation that:

- All schools have increased HIV and AIDS teaching and activities.
- Target schools have significantly more activities and use more resources related to HIV and AIDS than do control schools.
- Teachers in target schools see fewer barriers and consequently have better attitudes toward teaching about HIV and AIDS.
- In schools where teachers are specifically addressing how to resist pressures to play sex, pupils rate the programming more positively.
- There is a strong focus on abstinence as the only acceptable and trustworthy method of preventing transmission of HIV.
- Pupils communicate with family and other community members and independently pursue information about HIV/AIDS significantly more in target than control schools.
- Pupil knowledge, perceptions of control or agency with respect to their sexual decisions, delay of initiation of first sexual intercourse (sexual debut), and condom use among boys are indirectly influenced by PSABH. This influence is directed through PSABH's influence on the presence of HIV and AIDS programming and activities in the school, teacher attitudes and perceptions of barriers toward teaching about HIV and AIDS and pupil responses to the programming.

In addition to mapping the pathways of influence of PSABH and of HIV and AIDS programming in schools, the analyses also identified three school and community factors which both influenced programming in schools and the outcomes of pupil knowledge, attitudes and behaviours. School ethnic composition, school resourcing (as measured by the school's SES, teacher/pupil ratios), and the presence of church influence in the schools and church programming on HIV and AIDS in the community, each influenced pupils and schools independently of the influence of PSABH. These continuing school and community factors suggest that PSABH is likely to continue to have different effects in different communities based on ethnic and cultural factors, school resourcing and influence and position of churches with respect to HIV, AIDS and sexuality.

Taking all sources of data into account it is clear that schools have faced many challenges during this first year of the PSABH programme. Not only did target schools have to free up staff to attend PSABH training sessions and subsequently train entire teaching staffs before implementing the programme, but they, together with the control schools, also faced a lengthy teachers strike and an influx of many new pupils. Of note is that despite these challenges, implementation of HIV/AIDS programming has begun in both control

and target schools, however, significantly more so in target schools. Such programming is influencing pupil knowledge, attitudes and behaviours, but the effects are still small with many of them indirect and only beginning to be seen. Time will tell whether changes continue in the desired directions and become more evident in target than control schools.

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